

# Informe

## Table of contents

<b>1</b>	<b>Informe: DW AdventureWorks2019</b>	<b>2</b>
1.1	Exploración general . . . . .	2
1.1.1	Análisis de ventas por trimestre . . . . .	2
1.1.2	Las categorías más exitosas . . . . .	5
1.2	Análisis de promociones en ventas online . . . . .	11
1.2.2	Aplicación de promociones por categoría . . . . .	15
1.2.3	Las promociones más aplicadas . . . . .	17
1.3	Resellers . . . . .	18
1.3.1	Evolución de los mejores resellers . . . . .	19
1.3.2	Línea de tiempo . . . . .	20
1.4	Query 9 . . . . .	20
1.5	Query 10 . . . . .	36
1.5.1	Tabla . . . . .	37
1.5.2	Scatterplot . . . . .	52

```
library(odbc)
library(DBI)
library(dplyr)
```

Attaching package: 'dplyr'

The following objects are masked from 'package:stats':

filter, lag

The following objects are masked from 'package:base':

intersect, setdiff, setequal, union

```

library(ggplot2)
library(gt)

keys <- readLines("keys.txt", warn = FALSE)
username <- gsub("username:", "", keys[1])
password <- gsub("password:", "", keys[2])

con <- dbConnect(odbc(),
                  Driver = "SQL Server",
                  Server = "157.92.26.17,1443",
                  Database = "AdventureWorksDW2019",
                  UID = username,
                  PWD = password)

```

# 1 Informe: DW AdventureWorks2019

## 1.1 Exploración general

### 1.1.1 Análisis de ventas por trimestre

```

query1 <- "
--- QUERY 1

--- Tabla donde cada fila es una combinacion de año-trimestre-canal de ventas.
--- col1 = año. col2= trimestre. col3 = canal de ventas. col4 = $$ vendido ese trimestre.

WITH reseller AS
(
SELECT dd.CalendarYear, dd.CalendarQuarter, frs.SalesAmount, 'Reseller Sales' AS CanalVent
FROM AdventureWorksDW2019.dbo.FactResellerSales frs INNER JOIN
AdventureWorksDW2019.dbo.DimDate dd ON frs.OrderDateKey = dd.DateKey
),

internet AS
(
SELECT dd.CalendarYear, dd.CalendarQuarter, fis.SalesAmount, 'Internet Sales' AS CanalVent
FROM AdventureWorksDW2019.dbo.FactInternetSales fis INNER JOIN
AdventureWorksDW2019.dbo.DimDate dd ON fis.OrderDateKey = dd.DateKey

```

```

),

ambas AS
(
SELECT CalendarYear, CalendarQuarter, SalesAmount, CanalVenta
FROM reseller
UNION ALL
SELECT CalendarYear, CalendarQuarter, SalesAmount, CanalVenta
FROM internet
)

SELECT CalendarYear, CalendarQuarter, CanalVenta, SUM(SalesAmount) AS SalesAmount
FROM ambas
GROUP BY CalendarYear, CalendarQuarter, CanalVenta
ORDER BY CalendarYear, CalendarQuarter"
q1 <- dbGetQuery(con, query1)

```

#### 1.1.1.1 Visualización tabular

```

q1 %>%
  gt() %>%
  tab_header(title = md('**Ventas por trimestre**'),
             subtitle = 'Internet y Resellers' ) %>%
  opt_align_table_header('left')

```

### Ventas por trimestre

Internet y Resellers

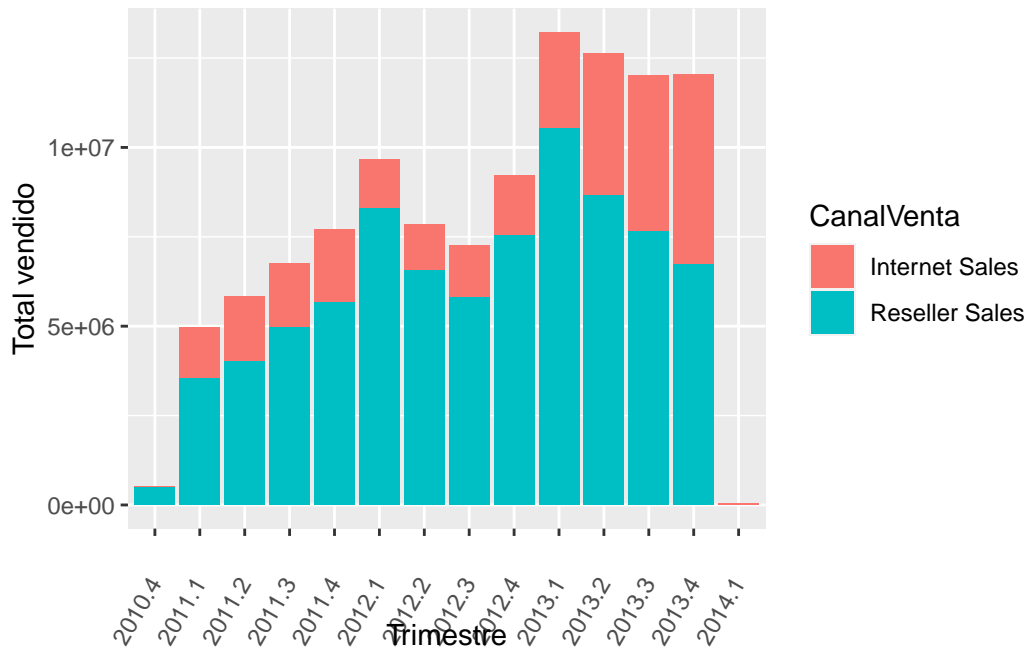
CalendarYear	CalendarQuarter	CanalVenta	SalesAmount
2010	4	Internet Sales	43421.04
2010	4	Reseller Sales	489328.58
2011	1	Internet Sales	1421357.48
2011	1	Reseller Sales	3549026.39
2011	2	Internet Sales	1801595.14
2011	2	Reseller Sales	4027080.34
2011	3	Internet Sales	1814387.99
2011	3	Reseller Sales	4952085.98
2011	4	Internet Sales	2038185.32
2011	4	Reseller Sales	5664610.01
2012	1	Internet Sales	1375841.32

2012	1	Reseller Sales	8288704.13
2012	2	Internet Sales	1314373.65
2012	2	Reseller Sales	6556571.37
2012	3	Internet Sales	1454653.06
2012	3	Reseller Sales	5814080.11
2012	4	Internet Sales	1697617.17
2012	4	Reseller Sales	7534275.93
2013	1	Internet Sales	2678946.04
2013	1	Reseller Sales	10542661.42
2013	2	Internet Sales	3973793.48
2013	2	Reseller Sales	8656657.46
2013	3	Internet Sales	4370237.06
2013	3	Reseller Sales	7644679.64
2013	4	Internet Sales	5328573.76
2013	4	Reseller Sales	6730835.64
2014	1	Internet Sales	45694.72

---

### 1.1.1.2 Serie de tiempo

```
q1 %>%
  mutate(CalendarYear = factor(CalendarYear),
         CalendarQuarter = factor(CalendarQuarter, levels = c("1", "2", "3", "4"))) %>%
  ggplot(aes(x = reorder(interaction(CalendarYear, CalendarQuarter), as.numeric(CalendarYear)),
            y = Total vendido)) +
  geom_bar(stat="identity") +
  labs(x = "Trimestre", y = "Total vendido") +
  theme(axis.text.x = element_text(angle = 60, vjust = 0.5, hjust=1))
```



### 1.1.2 Las categorías más exitosas

```
query2a <- "
WITH reseller AS
(
SELECT dp.ProductSubcategoryKey, dps.SpanishProductSubcategoryName, frs.OrderQuantity, 'Re
FROM ((AdventureWorksDW2019.dbo.FactResellerSales frs INNER JOIN
AdventureWorksDW2019.dbo.DimProduct dp ON frs.ProductKey = dp.ProductKey)
INNER JOIN AdventureWorksDW2019.dbo.DimProductSubcategory dps
ON dp.ProductSubcategoryKey = dps.ProductSubcategoryKey) INNER JOIN
AdventureWorksDW2019.dbo.DimDate dd ON frs.OrderDateKey = dd.DateKey
WHERE dd.CalendarYear IN (2010, 2011, 2012, 2013)
),

internet AS
(
SELECT dp.ProductSubcategoryKey, dps.SpanishProductSubcategoryName, fis.OrderQuantity, 'In
FROM ((AdventureWorksDW2019.dbo.FactInternetSales fis INNER JOIN
AdventureWorksDW2019.dbo.DimProduct dp ON fis.ProductKey = dp.ProductKey)
INNER JOIN AdventureWorksDW2019.dbo.DimProductSubcategory dps
ON dp.ProductSubcategoryKey = dps.ProductSubcategoryKey) INNER JOIN
```

```

AdventureWorksDW2019.dbo.DimDate dd ON fis.OrderDateKey = dd.DateKey
WHERE dd.CalendarYear IN (2010, 2011, 2012, 2013)
),

ambas AS
(
SELECT ProductSubcategoryKey, SpanishProductSubcategoryName, OrderQuantity, CanalVenta
FROM reseller
UNION ALL
SELECT ProductSubcategoryKey, SpanishProductSubcategoryName, OrderQuantity, CanalVenta
FROM internet
),

ambas_agrupadas AS
(
SELECT ProductSubcategoryKey, SpanishProductSubcategoryName, CanalVenta, SUM(OrderQuantity)
FROM ambas
GROUP BY ProductSubcategoryKey, SpanishProductSubcategoryName, CanalVenta
)

SELECT SpanishProductSubcategoryName, CanalVenta, ProductosVendidos_PorCanalVenta,
SUM(ProductosVendidos_PorCanalVenta) OVER(PARTITION BY SpanishProductSubcategoryName) AS P
FROM ambas_agrupadas
ORDER BY ProductosVendidos_PorSubCategoria DESC
"
q2a <- dbGetQuery(con, query2a)

q2a %>%
  gt() %>%
  tab_header(title = md('**Subcategorías de productos con más ventas**'),
             subtitle = 'Internet y Resellers. Período 2010-2013' ) %>%
  opt_align_table_header('left')

```

### Subcategorías de productos con más ventas

Internet y Resellers. Período 2010-2013

SpanishProductSubcategoryName	CanalVenta	ProductosVendidos_PorCanalVenta	ProductosVendidos_PorCanalVenta
Bicicleta de carretera	Reseller Sales		39080
Bicicleta de carretera	Internet Sales		8068
Bicicleta de montaña	Internet Sales		4970
Bicicleta de montaña	Reseller Sales		23351

Jersey	Reseller Sales	19379
Jersey	Internet Sales	3197
Casco	Reseller Sales	13101
Casco	Internet Sales	6200
Cubierta y cámara	Reseller Sales	674
Cubierta y cámara	Internet Sales	16407
Bicicleta de paseo	Reseller Sales	12584
Bicicleta de paseo	Internet Sales	2167
Guantes	Internet Sales	1366
Guantes	Reseller Sales	11553
Cuadro de carretera	Reseller Sales	11747
Cuadro de montaña	Reseller Sales	11620
Portabotellas y botella	Internet Sales	7756
Portabotellas y botella	Reseller Sales	2571
Pantalones cortos	Reseller Sales	8946
Pantalones cortos	Internet Sales	963
Gorra	Reseller Sales	6121
Gorra	Internet Sales	2107
Camiseta	Reseller Sales	6176
Camiseta	Internet Sales	532
Rueda	Reseller Sales	5263
Calcetines	Reseller Sales	4649
Calcetines	Internet Sales	543
Mallas	Reseller Sales	4562
Barra	Reseller Sales	3950
Pedal	Reseller Sales	3931
Cuadro de paseo	Reseller Sales	3725
Limpiador	Reseller Sales	2411
Limpiador	Internet Sales	869
Portabicicletas	Reseller Sales	2838
Portabicicletas	Internet Sales	308
Culote corto	Reseller Sales	3111
Sistema de hidratación	Reseller Sales	2028
Sistema de hidratación	Internet Sales	710
Sillín	Reseller Sales	2145
Guardabarros	Internet Sales	2027
Desviador	Reseller Sales	1166
Bomba	Reseller Sales	1130
Bielas	Reseller Sales	1107
Candado	Reseller Sales	1086
Frenos	Reseller Sales	1035
Dirección	Reseller Sales	1009
Eje de pedalier	Reseller Sales	921

Cadena	Reseller Sales	774
Horquilla	Reseller Sales	634
Soporte para bicicletas	Internet Sales	238

---

SCS

```

query2b <- "
WITH reseller AS
(
SELECT dpc.ProductCategoryKey, dpc.SpanishProductCategoryName, frs.OrderQuantity, 'Reseller' AS CanalVenta
FROM (((AdventureWorksDW2019.dbo.FactResellerSales frs INNER JOIN
AdventureWorksDW2019.dbo.DimProduct dp ON frs.ProductKey = dp.ProductKey)
INNER JOIN AdventureWorksDW2019.dbo.DimProductSubcategory dps
ON dp.ProductSubcategoryKey = dps.ProductSubcategoryKey) INNER JOIN
AdventureWorksDW2019.dbo.DimProductCategory dpc ON dps.ProductCategoryKey = dpc.ProductCategoryKey)
INNER JOIN
AdventureWorksDW2019.dbo.DimDate dd ON frs.OrderDateKey = dd.DateKey
WHERE dd.CalendarYear IN (2010, 2011, 2012, 2013)
),

internet AS
(
SELECT dpc.ProductCategoryKey, dpc.SpanishProductCategoryName, fis.OrderQuantity, 'Internet' AS CanalVenta
FROM (((AdventureWorksDW2019.dbo.FactInternetSales fis INNER JOIN
AdventureWorksDW2019.dbo.DimProduct dp ON fis.ProductKey = dp.ProductKey)
INNER JOIN AdventureWorksDW2019.dbo.DimProductSubcategory dps
ON dp.ProductSubcategoryKey = dps.ProductSubcategoryKey) INNER JOIN
AdventureWorksDW2019.dbo.DimProductCategory dpc ON dps.ProductCategoryKey = dpc.ProductCategoryKey)
INNER JOIN
AdventureWorksDW2019.dbo.DimDate dd ON fis.OrderDateKey = dd.DateKey
WHERE dd.CalendarYear IN (2010, 2011, 2012, 2013)
),

ambas AS
(
SELECT ProductCategoryKey, SpanishProductCategoryName, OrderQuantity, CanalVenta
FROM reseller
UNION ALL
SELECT ProductCategoryKey, SpanishProductCategoryName, OrderQuantity, CanalVenta
FROM internet
),

```



```

ambas_agrupadas AS
(
SELECT ProductCategoryKey, SpanishProductCategoryName, CanalVenta, SUM(OrderQuantity) AS P
FROM ambas
GROUP BY ProductCategoryKey, SpanishProductCategoryName, CanalVenta
)

SELECT SpanishProductCategoryName, CanalVenta, ProductosVendidos_PorCanalVenta,
SUM(ProductosVendidos_PorCanalVenta) OVER(PARTITION BY SpanishProductCategoryName) AS Prod
FROM ambas_agrupadas
ORDER BY ProductosVendidos_PorCategoria DESC
"
q2b <- dbGetQuery(con, query2b)

q2b %>%
  gt() %>%
  tab_header(title = md('**Ventas por categoría**'),
             subtitle = 'Internet y Resellers. Período 2010-2013' ) %>%
  opt_align_table_header('left')

```

### Ventas por categoría

Internet y Resellers. Período 2010-2013

SpanishProductCategoryName	CanalVenta	ProductosVendidos_PorCanalVenta	ProductosVendidos_I
Bicicleta	Reseller Sales	75015	
Bicicleta	Internet Sales	15205	
Prenda	Internet Sales	8708	
Prenda	Reseller Sales	64497	
Accesorio	Internet Sales	34515	
Accesorio	Reseller Sales	25839	
Componente	Reseller Sales	49027	

#### 1.1.2.1 Productos más vendidos en cada categoría

```

query3 <- "
WITH reseller AS
(
SELECT frs.ProductKey, prod.SpanishProductName, frs.OrderQuantity, frs.UnitPrice, categ.Sp
FROM dbo.FactResellerSales frs
LEFT JOIN dbo.DimProduct prod ON frs.ProductKey = prod.ProductKey

```

```

LEFT JOIN dbo.DimProductSubcategory sub ON prod.ProductSubcategoryKey = sub.ProductSubcate
LEFT JOIN dbo.DimProductCategory categ ON sub.ProductCategoryKey = categ.ProductCategoryKe
),

internet AS
(
SELECT fis.ProductKey, prod.SpanishProductName, fis.OrderQuantity, fis.UnitPrice, categ.Sp
FROM dbo.FactInternetSales fis
LEFT JOIN dbo.DimProduct prod ON fis.ProductKey = prod.ProductKey
LEFT JOIN dbo.DimProductSubcategory sub ON prod.ProductSubcategoryKey = sub.ProductSubcate
LEFT JOIN dbo.DimProductCategory categ ON sub.ProductCategoryKey = categ.ProductCategoryKe
),

ambas AS
(
SELECT ProductKey, SpanishProductCategoryName, SpanishProductName, OrderQuantity, UnitPric
FROM reseller
UNION ALL
SELECT ProductKey, SpanishProductCategoryName, SpanishProductName, OrderQuantity, UnitPric
FROM internet
),

tabla_sumario AS(
SELECT *,
SUM(OrderQuantity) OVER(PARTITION BY SpanishProductCategoryName, CanalVenta) AS n_prod_ven
SUM(OrderQuantity) OVER(PARTITION BY SpanishProductCategoryName, CanalVenta, ProductKey) A
SUM(MontoVendido) OVER(PARTITION BY SpanishProductCategoryName, CanalVenta) AS monto_vendi
SUM(MontoVendido) OVER(PARTITION BY SpanishProductCategoryName, CanalVenta, ProductKey) AS
FROM ambas),

tabla_sumario_producto AS (
SELECT DISTINCT CanalVenta, SpanishProductCategoryName, ProductKey, SpanishProductName, n_
FROM tabla_sumario),

rn_tabla_sumario_producto AS(
SELECT *, (monto_vendido_producto_categoria_canal*100/monto_vendido_categoria_canal) AS po
ROW_NUMBER() OVER(PARTITION BY SpanishProductCategoryName, CanalVenta ORDER BY ventas_prod
FROM tabla_sumario_producto
)
SELECT *
FROM rn_tabla_sumario_producto

```

```

WHERE ranking_cantidad_pvendidos_categoria < 3
-- Uso intencional del row number en vez de dense_rank dado que en el canal internet sales
"
q3 <- dbGetQuery(con, query3)

q3 %>%
  gt() %>%
  tab_header(title = md('**Productos más vendidos por categoría y canal**'),
             subtitle = 'Top 3. Internet y Resellers. Período 2010-2013' ) %>%
  opt_align_table_header('left')

```

CanalVenta	SpanishProductCategoryName	ProductKey	SpanishProductName	n_prod
Internet Sales	Accesorio	477		
Internet Sales	Accesorio	480		
Reseller Sales	Accesorio	483		
Reseller Sales	Accesorio	477		
Internet Sales	Bicicleta	361	Montaña: 200, negra, 42	
Internet Sales	Bicicleta	353	Montaña: 200, plateada, 38	
Reseller Sales	Bicicleta	343	Carretera: 650, negra, 52	
Reseller Sales	Bicicleta	327	Carretera: 650, roja, 44	
Reseller Sales	Componente	428		
Reseller Sales	Componente	511		
Internet Sales	Prenda	225		
Internet Sales	Prenda	465		
Reseller Sales	Prenda	471	Camiseta clásica, P	
Reseller Sales	Prenda	491	Jersey clásico de manga corta, SG	

## 1.2 Análisis de promociones en ventas online

### 1.2.1

Ventas por trimestre en volumen de dinero

```

query4 <- "WITH r_sin_promocion AS
(
SELECT dd.CalendarYear, dd.CalendarQuarter, frs.SalesAmount, 'Sin Promocion' AS Promocion
FROM (AdventureWorksDW2019.dbo.FactResellerSales frs INNER JOIN

```

```

AdventureWorksDW2019.dbo.DimDate dd ON frs.OrderDateKey = dd.DateKey)
INNER JOIN AdventureWorksDW2019.dbo.DimPromotion dp ON frs.PromotionKey = dp.PromotionKey
WHERE dd.CalendarYear IN (2010, 2011, 2012, 2013) AND
dp.PromotionKey = 1

),

r_con_promocion AS
(
SELECT dd.CalendarYear, dd.CalendarQuarter, frs.SalesAmount, 'Con Promocion' AS Promocion_
FROM (AdventureWorksDW2019.dbo.FactResellerSales frs INNER JOIN
AdventureWorksDW2019.dbo.DimDate dd ON frs.OrderDateKey = dd.DateKey)
INNER JOIN AdventureWorksDW2019.dbo.DimPromotion dp ON frs.PromotionKey = dp.PromotionKey
WHERE dd.CalendarYear IN (2010, 2011, 2012, 2013) AND
dp.PromotionKey IN (2,3,4,5,6,7,8,9,10,11,12,13,14,15,16)
),

i_sin_promocion AS
(
SELECT dd.CalendarYear, dd.CalendarQuarter, fis.SalesAmount, 'Sin Promocion' AS Promocion_
FROM (AdventureWorksDW2019.dbo.FactInternetSales fis INNER JOIN
AdventureWorksDW2019.dbo.DimDate dd ON fis.OrderDateKey = dd.DateKey)
INNER JOIN AdventureWorksDW2019.dbo.DimPromotion dp ON fis.PromotionKey = dp.PromotionKey
WHERE dd.CalendarYear IN (2010, 2011, 2012, 2013) AND
dp.PromotionKey = 1
),

i_con_promocion AS
(
SELECT dd.CalendarYear, dd.CalendarQuarter, fis.SalesAmount, 'Con Promocion' AS Promocion_
FROM (AdventureWorksDW2019.dbo.FactInternetSales fis INNER JOIN
AdventureWorksDW2019.dbo.DimDate dd ON fis.OrderDateKey = dd.DateKey)
INNER JOIN AdventureWorksDW2019.dbo.DimPromotion dp ON fis.PromotionKey = dp.PromotionKey
WHERE dd.CalendarYear IN (2010, 2011, 2012, 2013) AND
dp.PromotionKey IN (2,3,4,5,6,7,8,9,10,11,12,13,14,15,16)
),

todas AS
(
SELECT CalendarYear, CalendarQuarter, SalesAmount, Promocion_SiNo
FROM r_sin_promocion

```

```

UNION ALL
SELECT CalendarYear, CalendarQuarter, SalesAmount, Promocion_SiNo
FROM r_con_promocion
UNION ALL
SELECT CalendarYear, CalendarQuarter, SalesAmount, Promocion_SiNo
FROM i_sin_promocion
UNION ALL
SELECT CalendarYear, CalendarQuarter, SalesAmount, Promocion_SiNo
FROM i_con_promocion
)

SELECT CalendarYear, CalendarQuarter, Promocion_SiNo, SUM(SalesAmount) AS SalesAmount
FROM todas
GROUP BY CalendarYear, CalendarQuarter, Promocion_SiNo
ORDER BY CalendarYear, CalendarQuarter"
q4 <- dbGetQuery(con, query4)

```

### 1.2.1.1 Visualización tabular

```

q4 %>%
  gt() %>%
  tab_header(title = md('**Ventas con y sin descuento por año y trimestre**'),
             subtitle = 'Internet y Resellers. Período 2010-2013' ) %>%
  opt_align_table_header('left')

```

#### Ventas con y sin descuento por año y trimestre

Internet y Resellers. Período 2010-2013

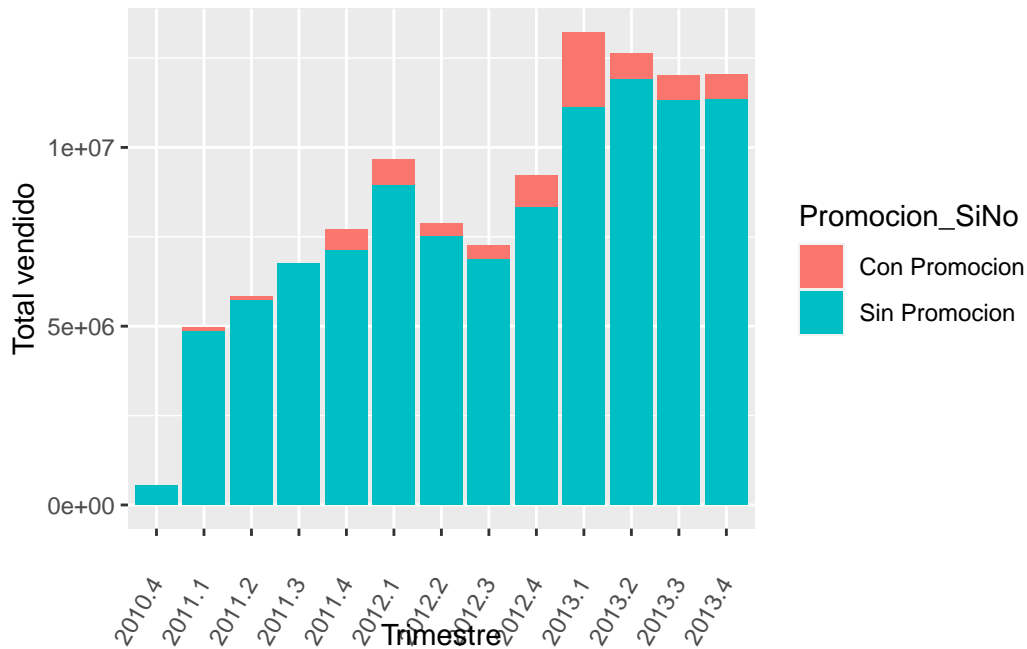
CalendarYear	CalendarQuarter	Promocion_SiNo	SalesAmount
2010	4	Sin Promocion	532749.62
2011	1	Con Promocion	107302.37
2011	1	Sin Promocion	4863081.49
2011	2	Con Promocion	102646.45
2011	2	Sin Promocion	5726029.03
2011	3	Con Promocion	11182.62
2011	3	Sin Promocion	6755291.35
2011	4	Con Promocion	591527.27
2011	4	Sin Promocion	7111268.06
2012	1	Con Promocion	716925.38
2012	1	Sin Promocion	8947620.06

2012	2	Con Promocion	369436.47
2012	2	Sin Promocion	7501508.55
2012	3	Con Promocion	397786.47
2012	3	Sin Promocion	6870946.69
2012	4	Con Promocion	920213.17
2012	4	Sin Promocion	8311679.92
2013	1	Con Promocion	2101207.53
2013	1	Sin Promocion	11120399.94
2013	2	Con Promocion	740419.50
2013	2	Sin Promocion	11890031.44
2013	3	Con Promocion	700893.93
2013	3	Sin Promocion	11314022.77
2013	4	Con Promocion	714218.00
2013	4	Sin Promocion	11345191.39

---

### 1.2.1.2 Serie de tiempo

```
q4 %>%
  mutate(CalendarYear = factor(CalendarYear),
         CalendarQuarter = factor(CalendarQuarter, levels = c("1", "2", "3", "4"))) %>%
  ggplot(aes(x = reorder(interaction(CalendarYear, CalendarQuarter), as.numeric(CalendarYear)),
            y = "Total vendido")) +
  geom_bar(stat="identity") +
  labs(x = "Trimestre", y = "Total vendido") +
  theme(axis.text.x = element_text(angle = 60, vjust = 0.5, hjust=1))
```



### 1.2.2 Aplicación de promociones por categoría

```

query5 <- "WITH helper1 AS (SELECT DISTINCT isales.SalesOrderNumber, categ.SpanishProductC
CASE WHEN isales.PromotionKey = '1' THEN 'sin_promocion'
ELSE 'con_promocion'
END AS 'con_sin_promo'
FROM dbo.FactInternetSales isales
LEFT JOIN dbo.DimProduct prod ON isales.ProductKey = prod.ProductKey
LEFT JOIN dbo.DimProductSubcategory sub ON prod.ProductSubcategoryKey = sub.ProductSubcate
LEFT JOIN dbo.DimProductCategory categ ON sub.ProductCategoryKey = categ.ProductCategoryKe
WHERE YEAR(isales.OrderDate) IN (2010, 2011, 2012, 2013)),

helper2 AS (
SELECT SpanishProductCategoryName, con_sin_promo, COUNT(*) as total
FROM helper1
GROUP BY SpanishProductCategoryName, con_sin_promo),

helper3 AS(
SELECT SpanishProductCategoryName,
SUM(CASE WHEN con_sin_promo = 'con_promocion' THEN total END) AS productos_con_promocion,
SUM(CASE WHEN con_sin_promo = 'sin_promocion' THEN total END) AS productos_sin_promocion,

```

```

SUM(total) AS total_categoria
FROM helper2
GROUP BY SpanishProductCategoryName)

SELECT SpanishProductCategoryName, total_categoria, productos_con_promocion, productos_sin_promocion
FROM helper3"

q5 <- dbGetQuery(con, query5)
q5 %>%
  gt() %>%
  tab_header(title = md("**Porcentaje de ventas totales que se hacen c/sin promoción**"),
             subtitle = 'Por categoría Internet Sales. Período 2010-2013' ) %>%
  opt_align_table_header('left')

```

**Porcentaje de ventas totales que se hacen c/sin promoción**  
 Por categoría Internet Sales. Período 2010-2013

SpanishProductCategoryName	total_categoria	productos_con_promocion	productos_sin_promocion
Accesorio	18277	843	17434
Bicicleta	15205	1095	14110
Prenda	7199	209	6990

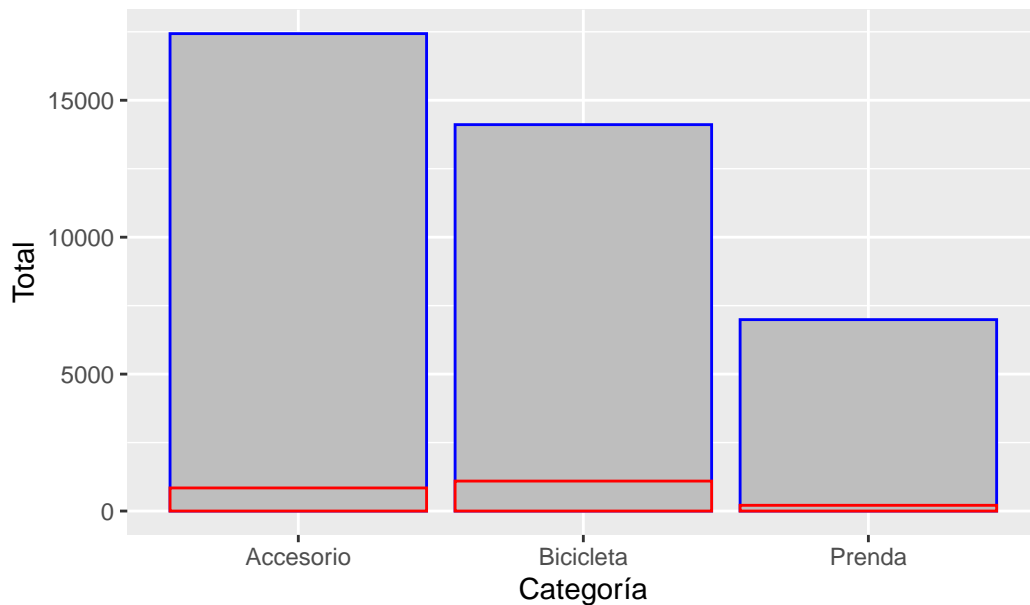
```

q5 %>%
  ggplot(aes(x = SpanishProductCategoryName)) +
    geom_bar(aes(y = productos_sin_promocion), fill = "grey", colour = "blue", position = "dodge") +
    geom_bar(aes(y = productos_con_promocion), fill = "grey", colour = "red", position = "dodge") +
    labs(x = "Categoría", y = "Total") +
    ggtitle("Aplicación de promociones a productos por categoría")

```



### Aplicación de promociones a productos por categoría



#### 1.2.3 Las promociones más aplicadas

```
query6 <- "SELECT isales.PromotionKey, COUNT(*) as total_uso_id_promo
FROM dbo.FactInternetSales isales
LEFT JOIN dbo.DimProduct prod ON isales.ProductKey = prod.ProductKey
WHERE isales.PromotionKey != '1'
AND YEAR(isales.OrderDate) IN (2010, 2011, 2012, 2013)
GROUP BY isales.PromotionKey
ORDER BY total_uso_id_promo DESC"

q6 <- dbGetQuery(con, query6)
q6 %>%
  gt() %>%
  tab_header(title = md("**Promociones más aplicadas**"),
             subtitle = 'Internet Sales. Período 2010-2013' ) %>%
  opt_align_table_header('left')
```

#### Promociones más aplicadas

Internet Sales. Período 2010-2013

PromotionKey	total_uso_id_promo
--------------	--------------------

2	2118
13	20
14	13

```
query6b <- "SELECT SpanishPromotionName, SpanishPromotionType, SpanishPromotionCategory
FROM dbo.DimPromotion
WHERE PromotionKey IN (SELECT isales.PromotionKey
FROM dbo.FactInternetSales isales
LEFT JOIN dbo.DimProduct prod ON isales.ProductKey = prod.ProductKey
WHERE isales.PromotionKey != '1'
AND YEAR(isales.OrderDate) IN (2010, 2011, 2012, 2013))"
q6b <- dbGetQuery(con, query6b)
```

```
q6b %>%
  gt() %>%
  tab_header(title = md('**Detalle de las promociones más utilizadas**'),
             subtitle = 'Internet Sales. Período 2010-2013' ) %>%
  opt_align_table_header('left')
```

### Detalle de las promociones más utilizadas

Internet Sales. Período 2010-2013

SpanishPromotionName	SpanishPromotionType	SpanishPromotionCategory
Promoción 'Touring-3000'	Producto Nuevo	Distribuidor
Descuento por volumen (entre 11 y 14)	Descuento por volumen	Distribuidor
Promoción 'Touring-1000'	Producto Nuevo	Distribuidor

## 1.3 Resellers

```
query7 <- "WITH orderid_reseller AS (SELECT DISTINCT rsales.SalesOrderNumber, dr.ResellerName
FROM dbo.FactResellerSales rsales
LEFT JOIN dbo.DimReseller dr ON rsales.ResellerKey = dr.ResellerKey
WHERE YEAR(rsales.OrderDate) IN (2010, 2011, 2012, 2013))
SELECT TOP 5 ResellerName, COUNT(*) as total_ventas
FROM orderid_reseller
GROUP BY ResellerName
ORDER BY total_ventas DESC"
q7 <- dbGetQuery(con, query7)
```

```

q7 %>%
  gt() %>%
  tab_header(title = md('**Los mejores resellers del período**'),
             subtitle = 'Recorte top5. Reseller Sales. 2010-2013' ) %>%
  opt_align_table_header('left')

```

### Los mejores resellers del período

Recorte top5. Reseller Sales. 2010-2013

ResellerName	total_ventas
Friendly Bike Shop	15
Advanced Bike Components	12
Area Bike Accessories	12
Basic Sports Equipment	12
Better Bike Shop	12

#### 1.3.1 Evolución de los mejores resellers

```

query8 <- "WITH orden_reseller_anio AS (
  SELECT DISTINCT rsales.SalesOrderNumber, dr.ResellerName, YEAR(rsales.OrderDate) AS anio
  FROM dbo.FactResellerSales rsales
  LEFT JOIN dbo.DimReseller dr ON rsales.ResellerKey = dr.ResellerKey
  WHERE YEAR(rsales.OrderDate) IN (2010, 2011, 2012, 2013)
),
top_resellers AS (
  SELECT TOP 5 ResellerName, COUNT(*) AS total_ventas
  FROM dbo.FactResellerSales rsales
  LEFT JOIN dbo.DimReseller dr ON rsales.ResellerKey = dr.ResellerKey
  WHERE YEAR(rsales.OrderDate) IN (2010, 2011, 2012, 2013)
  GROUP BY ResellerName
  ORDER BY COUNT(*) DESC
)
SELECT ora.ResellerName, anio, COUNT(*) AS total_ventas_reseller_anio
FROM orden_reseller_anio ora
JOIN top_resellers ON ora.ResellerName = top_resellers.ResellerName
GROUP BY ora.ResellerName, anio"
q8 <- dbGetQuery(con, query8)
q8 %>%
  gt() %>%
  tab_header(title = md('**Recorrido de mejores resellers**'),

```

```

        subtitle = 'Año a año' ) %>%
opt_align_table_header('left')

```

### Recorrido de mejores resellers

Año a año

ResellerName	anio	total_ventas_reseller_anio
Retail Mall	2010	1
Larger Cycle Shop	2011	4
Rapid Bikes	2011	4
Retail Mall	2011	4
Top Sports Supply	2011	1
Vigorous Exercise Company	2011	4
Larger Cycle Shop	2012	4
Rapid Bikes	2012	4
Retail Mall	2012	4
Top Sports Supply	2012	4
Vigorous Exercise Company	2012	4
Larger Cycle Shop	2013	4
Rapid Bikes	2013	4
Retail Mall	2013	3
Top Sports Supply	2013	3
Vigorous Exercise Company	2013	4

#### 1.3.2 Línea de tiempo

#### 1.4 Query 9

```

query9 <- "WITH producto_venta_reseller AS (SELECT rsales.ProductKey, rsales.SalesOrderNum
FROM dbo.FactResellerSales rsales
LEFT JOIN dbo.DimReseller dr ON rsales.ResellerKey = dr.ResellerKey
WHERE YEAR(rsales.OrderDate) IN (2010, 2011, 2012, 2013)),
sod_reseller AS(
    SELECT DISTINCT SalesOrderNumber, ResellerName
    FROM producto_venta_reseller
),
total_vtas_reseller AS(
    SELECT ResellerName, COUNT(*) as total_ventas
    FROM producto_venta_reseller
    GROUP BY ResellerName

```

```

),
ventas_con_promo AS (
  SELECT DISTINCT ResellerName, SalesOrderNumber
  FROM producto_venta_reseller
  WHERE PromotionKey != '1'
),
total_vtas_reseller_promo AS (
  SELECT ResellerName, COUNT(*) as total_ventas_promo
  FROM ventas_con_promo
  GROUP BY ResellerName
), totales AS (
  SELECT tvr.ResellerName, tvr.total_ventas, ISNULL(tvrp.total_ventas_promo, 0) as total_ven
  FROM total_vtas_reseller tvr
  LEFT JOIN total_vtas_reseller_promo tvrp ON tvr.ResellerName = tvrp.ResellerName)
SELECT ResellerName, total_ventas, total_ventas_promo, (total_ventas_promo*100/total_venta
FROM totales
ORDER BY porc_vtas_con_promo DESC"
q9 <- dbGetQuery(con, query9)
q9 %>%
  gt() %>%
  tab_header(title = md("**Vendedores que aplicaron la mayor cantidad de promociones**"),
             subtitle = 'En relación a sus ventas 2010-2013' ) %>%
  opt_align_table_header('left')

```

## Vendedores que aplicaron la mayor cantidad de promociones

En relación a sus ventas 2010-2013

ResellerName	total_ventas	total_ventas_promo	porc_vtas_con_promo
Fitness Department Stores	3	1	33
Accessories Network	4	1	25
Central Bicycle Specialists	4	1	25
Off-Price Bike Center	4	1	25
Two-Seater Bikes	4	1	25
Top of the Line Bikes	5	1	20
Town Industries	5	1	20
Quality Bike Sales	5	1	20
Eastside Cycle Shop	5	1	20
Active Systems	6	1	16
Expert Sports Store	6	1	16
Professional Sporting Goods	6	1	16
Racks and Security Systems	6	1	16

Family Entertainment Center	7	1	14
Eastward Bike Accessories	7	1	14
Global Sports Outlet	8	1	12
Fitness Bike Accessories	9	1	11
Rampart Amusement Company	9	1	11
Rustic Bike Store	9	1	11
Sports Store	9	1	11
Unusual Bicycle Company	10	1	10
Handy Bike Services	10	1	10
All Cycle Shop	28	3	10
Capital Riding Supplies	10	1	10
Workout Emporium	10	1	10
Big Cycle Mall	11	1	9
Acclaimed Bicycle Company	11	1	9
Cycle Clearance	11	1	9
Top Bike Market	11	1	9
Transport Bikes	11	1	9
The Bicycle Accessories Company	34	3	8
Riverside Company	34	3	8
Security Racks and Locks Wholesalers	12	1	8
Maintenance and Repair for Bicycles	12	1	8
Finer Mart	12	1	8
Latest Accessories Sales	13	1	7
Coho Sports	14	1	7
Efficient Cycling	14	1	7
Racing Partners	26	2	7
Vale Riding Supplies	13	1	7
Quick Delivery Service	15	1	6
Eighty Toy Stores	29	2	6
Capable Sales and Service	37	2	5
Global Plaza	36	2	5
General Industries	54	3	5
Riding Associates	18	1	5
Rural Department Store	24	1	4
Sensible Sports	21	1	4
Sports Commodities	22	1	4
Suburban Cycle Shop	24	1	4
Sturdy Toys	193	8	4
Systematic Sales	23	1	4
Traditional Department Stores	120	5	4
Purchase Mart	21	1	4
Remarkable Bike Store	83	4	4
Novelty Bikes	24	1	4

Official Parts Shop	87	4	4
Greater Bike Store	72	3	4
Incomparable Bicycle Store	21	1	4
General Cycle Storehouse	134	6	4
Distant Inn	96	4	4
Bikes for Kids and Adults	44	2	4
West Wind Distributors	22	1	4
Western Bike Supplies	21	1	4
Vehicle Shop	29	1	3
Bikes for Two	27	1	3
Bike World	93	3	3
Engineered Bike Systems	30	1	3
Clamps & Brackets Co.	29	1	3
Consolidated Sales	125	4	3
Full-Service Bike Store	26	1	3
Fitness Discount Store	26	1	3
Family Cycle Store	181	7	3
Field Trip Inc	31	1	3
Famous Bike Shop	61	2	3
Exemplary Cycles	31	1	3
Latest Sports Equipment	332	10	3
Lubricant and Grease Suppliers	83	3	3
Grown-up Bike Store	30	1	3
Guaranteed Sales and Service	91	3	3
Hardware Components	85	3	3
Grand Sport Boutique	86	3	3
Nonskid Tire Company	26	1	3
Next-Door Bike Store	128	4	3
Orange Bicycle Company	56	2	3
Outdoor Sports Supply	54	2	3
Nearby Cycle Shop	198	6	3
Rally Master Company Inc	110	4	3
Professional Cycle Store	191	6	3
Tandem Bicycle Store	30	1	3
Unique Bikes	31	1	3
Sunny Place Bikes	106	4	3
Steel Inc.	233	6	2
Small Bike Shop	249	7	2
Sleek Bikes	84	2	2
Spare Parts Co.	297	7	2
Safe Toys	38	1	2
Sales and Supply Company	304	8	2
Rugged Bikes	84	2	2

Riding Cycles	184	4	2
Rewarding Activities Company	436	9	2
Ultimate Bike Shop	44	1	2
Valley Toy Store	235	5	2
Travel Sports	165	4	2
Tread Industries	81	2	2
Trusted Catalog Store	104	3	2
The Bike Mechanics	45	1	2
Rural Cycle Emporium	267	6	2
This Area Sporting Goods	45	1	2
Petroleum Products Distributors	168	4	2
Quitting Business Distributors	40	1	2
Painters Bicycle Specialists	150	3	2
Pedaling Components	37	1	2
Perfect Toys	123	3	2
Plastic Products Manufacturers	35	1	2
Racing Supply Distributors	50	1	2
Racing Tours	42	1	2
Red Bicycle Company	220	5	2
Resale Services	374	9	2
Reliable Brake Systems	44	1	2
Metropolitan Manufacturing	68	2	2
Mechanical Sports Center	50	1	2
Metro Metals Co.	120	3	2
Outstanding Cycles	165	4	2
Outdoor Equipment Store	332	8	2
Oils and Fluids Warehouse	46	1	2
One Bike Company	47	1	2
Nationwide Supply	196	4	2
Odometers and Accessories Company	154	4	2
Great Bicycle Supply	38	1	2
Great Bikes	290	8	2
Honest Repair Service	79	2	2
Helpful Sales and Repair Service	146	3	2
General Bike Corporation	128	3	2
Global Bike Retailers	196	4	2
Go-cart and Bike Specialists	146	3	2
Leather Seat Factory	241	7	2
Locks Company	44	1	2
Immediate Repair Shop	198	5	2
Extreme Riding Supplies	80	2	2
Farthest Bike Store	145	3	2
Fast Bike Works	45	1	2



Field Trip Store	357	8	2
Finer Cycle Shop	85	2	2
Finer Parts Shop	131	3	2
Fitness Sport Boutique	131	3	2
First Supplies	38	1	2
Frugal Bike Shop	193	4	2
Full Sports Supply	41	1	2
Friendly Bike Shop	323	8	2
Front Runner Bikes	170	4	2
Futuristic Sport Distributors	317	7	2
Cycles Sales and Repair	46	1	2
Client Discount Store	47	1	2
Casual Bicycle Store	263	7	2
Closest Bicycle Store	117	3	2
Commerce Bicycle Specialists	314	7	2
Commercial Sporting Goods	187	4	2
Exceptional Cycle Services	41	1	2
Designated Distributors	103	3	2
Bikes and Motorbikes	251	7	2
Bicycle Exporters	38	1	2
Bicycle Warehouse Inc.	39	1	2
Brakes and Gears	298	8	2
Central Discount Store	95	2	2
Action Bicycle Specialists	179	4	2
Activity Center	73	2	2
Amalgamated Parts Shop	156	4	2
Best Cycle Store	177	4	2
Best o' Bikes	34	1	2
Wheelsets Storehouse	254	6	2
Vigorous Exercise Company	530	8	1
Westside Plaza	203	4	1
Wonderful Bikes Inc.	54	1	1
World of Bikes	289	4	1
Worthwhile Activity Store	112	2	1
Better Bike Shop	359	7	1
Authorized Bike Sales and Rental	82	1	1
Area Bike Accessories	273	4	1
Advanced Bike Components	394	7	1
Bold Bike Accessories	75	1	1
Bicycle Merchandise Warehouse	219	4	1
Bike Dealers Association	432	6	1
Bike Part Wholesalers	171	2	1
eCommerce Bikes	263	3	1

Eastside Department Store	401	8	1
Elemental Sporting Goods	75	1	1
Elite Bikes	189	3	1
Downhill Bicycle Specialists	166	3	1
Downtown Hotel	54	1	1
Coalition Bike Company	54	1	1
Citywide Service and Repair	356	5	1
Closeout Boutique	375	7	1
Classic Cycle Store	92	1	1
Cycling Goods	97	1	1
Consolidated Messenger	139	2	1
Custom Accessories Company	250	3	1
Corner Bicycle Supply	429	5	1
Functional Store South	224	4	1
General Department Stores	53	1	1
Gears and Parts Company	92	1	1
Front Sporting Goods	181	3	1
Finer Sporting Goods	60	1	1
First Bike Store	312	4	1
Fitness Supplies	164	2	1
Fitness Toy Store	336	6	1
First Department Stores	59	1	1
Fourth Bike Store	172	2	1
Fasteners & Bolts Outlet	147	2	1
Favorite Toy Distributor	112	2	1
Fashionable Bikes and Accessories	258	3	1
Fashionable Department Stores	401	7	1
Fabrikam Inc., West	283	5	1
Extended Bike Sales	78	1	1
Extraordinary Bike Works	279	5	1
Excellent Bikes	155	3	1
Exhibition Showroom	228	4	1
Exhilarating Cycles	373	7	1
Immense Manufacturing Company	71	1	1
Industrial Supplies	79	1	1
Initial Bike Company	264	4	1
Juvenile Sports Equipment	168	3	1
Journey Sporting Goods	52	1	1
Larger Cycle Shop	482	8	1
Machines & Cycles Store	55	1	1
Liquidation Sales	79	1	1
List Price Catalog Company	68	1	1
Golf and Cycle Store	207	3	1

Grand Industries	77	1	1
Glossy Bikes	204	3	1
Getaway Inn	289	5	1
Gift and Toy Store	107	2	1
Highway Bike Shop	111	2	1
Grease and Oil Products Company	102	2	1
Health Spa, Limited	352	6	1
Noiseless Gear Company	210	3	1
North Bike Company	56	1	1
Neighborhood Store	152	3	1
Paint Supply	376	4	1
Original Bicycle Supply Company	387	4	1
Metro Cycle Shop	151	3	1
Metro Manufacturing	82	1	1
Metal Clearing House	99	1	1
Metro Bike Mart	144	2	1
Manufacturers Inc	73	1	1
Many Bikes Store	301	5	1
Metropolitan Bicycle Supply	303	5	1
Metropolitan Equipment	405	8	1
Metropolitan Sports Supply	85	1	1
Modular Cycle Systems	235	4	1
Retail Mall	451	9	1
Retail Sporting Equipment	91	1	1
Professional Sales and Service	162	2	1
Registered Cycle Store	440	6	1
Real Sporting Goods	418	7	1
Reasonable Bicycle Sales	329	4	1
Rally Day Mall	358	7	1
Rapid Bikes	446	8	1
Primary Bike Distributors	170	3	1
Permanent Finish Products	391	4	1
Paints and Solvents Company	55	1	1
Racing Sales and Service	188	3	1
Quick Parts and Service	98	1	1
Progressive Sports	70	1	1
Prosperous Tours	369	7	1
Thrilling Bike Tours	53	1	1
The Gear Store	393	7	1
Tire Exchange	68	1	1
Top Sports Supply	441	7	1
The Bike Outlet	100	1	1
Ultimate Bicycle Company	143	2	1

Twelfth Bike Store	264	4	1
Valuable Bike Parts Company	315	6	1
Variety Cycling	57	1	1
Utilitarian Sporting Goods	101	2	1
Underglaze and Finish Company	157	2	1
Unified Sports Company	57	1	1
Rich Department Store	73	1	1
Roadway Bike Emporium	71	1	1
Rodeway Bike Store	165	3	1
Rural Mountain Bike Mart	52	1	1
Safe Cycles Shop	375	6	1
Serious Cycles	67	1	1
Seventh Bike Store	380	4	1
Small Bike Accessories Shop	83	1	1
South Bike Company	65	1	1
Spa and Exercise Outfitters	264	4	1
Sheet Metal Manufacturing	371	4	1
Stock Parts and Supplies	89	1	1
Sports Merchandise	72	1	1
Sports Products Store	76	1	1
Sports Sales and Rental	44	0	0
Standard Bikes	60	0	0
Stationary Bikes and Stands	75	0	0
Super Sports Store	53	0	0
Superb Sales and Repair	89	0	0
Superior Hardware Distributors	8	0	0
Superlative Bikes	39	0	0
Sure & Reliable Sporting Goods	228	1	0
Swift Cycles	170	0	0
Synthetic Materials Manufacturing	5	0	0
Shipping Specialists	2	0	0
Showcase for Cycles	2	0	0
Simple Bike Parts	13	0	0
Sixth Bike Store	38	0	0
Small Cycle Store	121	1	0
Social Activities Club	14	0	0
Solid Bike Parts	114	0	0
Some Discount Store	31	0	0
Sparkling Paint and Finishes	34	0	0
Specialty Sports Store	15	0	0
Spoke Manufacturers	5	0	0
Sharp Bikes	19	0	0
Separate Parts Corporation	268	1	0

Selected Distributors	22	0	0
Self-Contained Cycle Parts Company	9	0	0
Sellers of Cycles	26	0	0
Sensational Discount Store	1	0	0
Sample Bike Store	58	0	0
Satin Finish Company	263	1	0
Scooters and Bikes Store	106	0	0
Scratch-Resistant Finishes Company	36	0	0
Seaside Bike Works	17	0	0
Seats and Saddles Company	1	0	0
Second Bike Shop	3	0	0
Rural Sales and Service	7	0	0
Roving Sports	23	0	0
Running and Cycling Gear	139	1	0
Road-Way Mart	1	0	0
Roadway Supplies	2	0	0
Road Way Sales and Rental	2	0	0
Roadway Bicycle Supply	145	1	0
Riders Company	378	3	0
Riding Excursions	1	0	0
Uncompromising Quality Co	11	0	0
Unsurpassed Bikes	21	0	0
Up-To-Date Sports	115	1	0
Urban Sports Emporium	103	0	0
Uttermost Bike Shop	283	1	0
Valley Bicycle Distributors	43	0	0
Valley Bicycle Specialists	150	1	0
Vast Bike Sales and Rental	65	0	0
Twin Cycles	13	0	0
Two Bike Shops	12	0	0
Two Wheels Cycle Store	24	0	0
Two-Wheeled Transit Company	53	0	0
Tubeless Tire Company	1	0	0
Trendy Department Stores	7	0	0
Travel Systems	35	0	0
Transportation Options	7	0	0
The Bike Shop	14	0	0
The Commissary	2	0	0
The Cycle Store	1	0	0
Tandem Sales and Service	30	0	0
Technical Parts Manufacturing	119	1	0
Tenth Bike Store	282	1	0
The Accessories Store	8	0	0

Tachometers and Accessories	39	0	0
Stylish Department Stores	14	0	0
Successful Sales Company	95	0	0
Summer Sports Place	4	0	0
Sundry Sporting Goods	317	1	0
Totes & Baskets Company	436	2	0
Tough and Reliable Parts	13	0	0
Touring Services	19	0	0
Trailblazing Sports	279	2	0
The New Bike Store	7	0	0
The Showroom	5	0	0
Third Bike Store	42	0	0
Tiny Bike Boutique	132	1	0
Tire Company	17	0	0
Thorough Parts and Repair Services	358	3	0
Thrifty Parts and Sales	8	0	0
Qualified Sales and Repair Services	115	0	0
Plastic Parts Company	8	0	0
Professional Cyclists	18	0	0
Quantity Discounts	229	0	0
Racing Association	5	0	0
Racing Bike Outlet	15	0	0
Parcel Express Delivery Service	1	0	0
Parts Shop	1	0	0
Pedal Systems Company	4	0	0
Pedals Warehouse	8	0	0
Primary Cycle Shop	14	0	0
Principal Bike Company	64	0	0
Producer Goods Clearinghouse	26	0	0
Professional Containers and Packaging Co.	34	0	0
Popular Bike Lines	156	1	0
Practical Bike Supply Company	8	0	0
Preferred Bikes	328	3	0
Pretty Bikes and Toys	91	0	0
Price-Cutter Discount Bikes	83	0	0
Raw Materials Inc	64	0	0
Rambling Tours	2	0	0
Racing Toys	61	0	0
Recommended Bicycles	2	0	0
Recreation Supplies	1	0	0
Recreation Systems	16	0	0
Recreation Toy Store	30	0	0
Regional Cycle Shop	3	0	0

Regional Manufacturing	2	0	0
Retail Sporting Goods	1	0	0
Retail Toy Store	7	0	0
Retirement Activities Association	4	0	0
Retread Tire Company	8	0	0
Retreat Inn	21	0	0
Retail Sales and Service	279	1	0
Reliable Retail Center	15	0	0
Responsible Bike Dealers	65	0	0
Retail Cycle Shop	1	0	0
Retail Discount Store	1	0	0
Remote Bicycle Specialists	62	0	0
Rental Bikes	33	0	0
Rental Gallery	36	0	0
Requisite Part Supply	27	0	0
More Bikes!	6	0	0
Mountain Bike Center	255	2	0
Mountain Bike Store	102	1	0
Mountain Emporium	1	0	0
Mountain Toy Store	13	0	0
National Manufacturing	110	0	0
Nearby Sporting Goods	5	0	0
Nearest Bike Store	6	0	0
Neighborhood Bicycle Storehouse	7	0	0
Mobile Outlet	1	0	0
Moderately-Priced Bikes Store	68	0	0
Modern Bike Store	85	0	0
Metropolitan Sales and Rental	10	0	0
Mechanical Products Ltd.	104	1	0
Mercantile Outlet	105	0	0
Major Amusement Company	70	0	0
Major Bicycle Store	1	0	0
Major Cycling	14	0	0
Major Sport Suppliers	5	0	0
Major Sporting Goods	2	0	0
Metro Bike Works	9	0	0
Metal Processing Company	142	1	0
Metro Sports Equipment	117	1	0
Our Sporting Goods Store	19	0	0
Outdoor Aerobic Systems Company	3	0	0
Outdoor Sporting Goods	13	0	0
One-Piece Handle Bars	1	0	0
Online Bike Catalog	7	0	0

Online Bike Sellers	5	0	0
Online Bike Warehouse	2	0	0
Only Bikes and Accessories	15	0	0
Operational Manufacturing	3	0	0
Optimal Bikes	14	0	0
New and Used Bicycles	304	1	0
New Bikes Company	6	0	0
Next Door Cycles	134	1	0
Nearby Bike Mall	31	0	0
Nice Bikes	15	0	0
Non-Slip Pedal Company	79	0	0
Number 1 Supply	219	2	0
Number One Bike Co.	55	0	0
Helmets and Cycles	113	1	0
Historic Bicycle Sales	17	0	0
Hobby Store	13	0	0
Home Town Bike Store	7	0	0
Hometown Riding Supplies	1	0	0
Ideal Components	3	0	0
General Riding Supplies	2	0	0
General Supplies	334	1	0
Genial Bike Associates	250	1	0
Genuine Bike Shop	59	0	0
Good Bicycle Store	2	0	0
Good Bike Shop	320	0	0
Good Toys	8	0	0
Grand Bicycle Stores	11	0	0
Grand Discount Store	310	3	0
Little Bicycle Supply Shop	6	0	0
Local Hardware Factory	32	0	0
Local Sales and Rental	12	0	0
Leading Bike Distributors	37	0	0
Leading Sales & Repair	103	1	0
Lease-a-Bike Shop	280	2	0
Leather and Vinyl Manufacturing	74	0	0
Mail Market	6	0	0
Mail-Order Outlet	286	1	0
Lustrous Paints and Components	1	0	0
Lots of Bikes Storehouse	6	0	0
Low Price Cycles	14	0	0
Leisure Activities	23	0	0
Leisure Clearing House	13	0	0
Largest Bike Store	8	0	0



Jumbo Bikes	2	0	0
Kickstand Sellers	6	0	0
Kickstands and Accessories Company	107	1	0
Kids and Adults Cycle Shop	3	0	0
Large Bike Shop	2	0	0
Instant Cycle Store	18	0	0
Instruments and Parts Company	125	1	0
Inexpensive Parts Shop	36	0	0
Impervious Paint Company	17	0	0
Imported and Domestic Cycles	1	0	0
Exotic Bikes	62	0	0
Express Bike Services	39	0	0
Excellent Riding Supplies	366	1	0
Exercise Center	6	0	0
Extras Sporting Goods	1	0	0
Extended Tours	9	0	0
Fad Outlet	22	0	0
Extreme Toy Store	23	0	0
Fabrikam Inc., East	88	0	0
Fast Services	12	0	0
Farthermost Bike Shop	422	2	0
Family's Favorite Bike Shop	17	0	0
Famous Bike Sales and Service	65	0	0
Fifth Bike Store	22	0	0
Finer Riding Supplies	250	0	0
Fitness Hotel	20	0	0
Fitness Toys	8	0	0
Fleet Bikes	6	0	0
First Center	4	0	0
First Cycle Store	115	0	0
Finish and Sealant Products	12	0	0
Finished Parts Shop	39	0	0
First-Rate Outlet	10	0	0
Fitness Cycling	5	0	0
Friendly Neighborhood Bikes	15	0	0
Fun Times Club	218	1	0
Fun Toys and Bikes	101	1	0
Gear-Shift Bikes Limited	1	0	0
General Associates	106	0	0
Future Bikes	12	0	0
Futuristic Bikes	20	0	0
Games and Sport Supply Company	9	0	0
Gasless Cycle Shop	130	1	0

Countryside Company	14	0	0
Courteous Bicycle Specialists	7	0	0
Cross-Country Riding Supplies	25	0	0
Curbside Universe	24	0	0
Convenient Bike Shop	31	0	0
Convenient Sales and Service	129	1	0
Daring Rides	59	0	0
Demand Distributors	11	0	0
Cycles Wholesaler & Mfg.	104	1	0
Cycle Merchants	17	0	0
Cycle Parts and Accessories	141	1	0
Cycles and Scooters	13	0	0
Catalog Store	255	1	0
Center Cycle Shop	2	0	0
Commendable Bikes	13	0	0
Community Department Stores	78	0	0
Commuter Bicycle Store	20	0	0
Eighth Bike Store	102	1	0
Endurance Bikes	5	0	0
Eleventh Bike Store	1	0	0
Exchange Parts Inc.	116	1	0
Exclusive Bicycle Mart	7	0	0
Executive Discount Store	3	0	0
Executive Gift Store	118	1	0
Enterprise Center	16	0	0
Essential Bike Works	2	0	0
Every Bike Shop	184	0	0
Eastside Parts Shop	4	0	0
Eastside Sporting Goods	194	1	0
Economy Bikes Company	5	0	0
Economy Center	3	0	0
Educational Services	167	1	0
Discount Bicycle Specialists	1	0	0
Discount Tours	67	0	0
Distance Bikes	7	0	0
Distinctive Cycles Sales & Service	9	0	0
Distinctive Store	24	0	0
District Mall	69	0	0
Bike Products and Accessories	22	0	0
Bike Rims Company	80	0	0
Black Bicycle Company	2	0	0
Blue Bicycle Company	5	0	0
Blue-Ribbon Bike Company	115	1	0

Bike Experts	177	1	0
Bike Goods	54	0	0
Big-Time Bike Store	75	0	0
Bike Boutique	179	0	0
Bicycle Outfitters	116	1	0
Bicycle Lines Distributors	250	2	0
Cash & Carry Bikes	5	0	0
Brightwork Company	114	0	0
Budget Bike Company	3	0	0
Budget Toy Store	131	1	0
Bulk Discount Store	331	1	0
Camping and Sports Store	122	1	0
Certified Bicycle Supply	99	0	0
Certified Sports Supply	7	0	0
Chain and Chain Tool Distributions	1	0	0
Channel Outlet	20	0	0
Chic Department Stores	260	2	0
City Manufacturing	10	0	0
Aerobic Exercise Company	10	0	0
Affordable Sports Equipment	269	0	0
All Seasons Sports Supply	12	0	0
Alpine Ski House	14	0	0
Alternative Vehicles	11	0	0
Active Cycling	2	0	0
Active Life Toys	173	0	0
Ace Bicycle Supply	6	0	0
A Bike Store	73	0	0
A Great Bicycle Company	14	0	0
A Typical Bike Shop	75	0	0
Acceptable Sales & Service	3	0	0
Area Sheet Metal Supply	7	0	0
Associated Bikes	16	0	0
Atypical Bike Company	2	0	0
Authentic Sales and Service	13	0	0
Another Bicycle Company	176	1	0
Active Transport Inc.	71	0	0
Basic Bike Company	27	0	0
Basic Sports Equipment	64	0	0
Beneficial Exercises and Activities	5	0	0
Bicycle Accessories and Kits	11	0	0
Year-Round Sports	43	0	0
Yellow Bicycle Company	28	0	0
Work and Play Association	102	0	0

Wheel Gallery	22	0	0
Wheels Inc.	3	0	0
World Bike Discount Store	10	0	0
Vigorous Sports Store	12	0	0
Village Tours	36	0	0
Vintage Sport Boutique	146	1	0
Vinyl and Plastic Goods Corporation	10	0	0
Weekend Bike Tours	1	0	0
Weekend Tours	72	0	0
West Side Mart	3	0	0
Wholesale Bikes	61	0	0
Wholesale Parts	59	0	0
Widget Bicycle Specialists	1	0	0
Wingtip Toys	3	0	0
Wire Baskets and Parts	90	0	0
Versatile Sporting Goods Company	9	0	0
Very Best Sports Supply	30	0	0
Westside Cycle Store	10	0	0

---

## 1.5 Query 10

```

query10 <- "WITH producto_venta_reseller AS (SELECT rsales.ProductKey, rsales.OrderQuantity
FROM dbo.FactResellerSales rsales
LEFT JOIN dbo.DimReseller dr ON rsales.ResellerKey = dr.ResellerKey
WHERE YEAR(rsales.OrderDate) IN (2010, 2011, 2012, 2013)),
sod_reseller AS(
    SELECT DISTINCT SalesOrderNumber, ResellerName
    FROM producto_venta_reseller
),
total_vtas_reseller AS(
    SELECT ResellerName, COUNT(*) as total_ventas
    FROM producto_venta_reseller
    GROUP BY ResellerName
),
total_items_reseller AS (
    SELECT ResellerName, SUM(OrderQuantity) as total_productos
    FROM producto_venta_reseller
    GROUP BY ResellerName
)
SELECT tvr.ResellerName, total_ventas, tir.total_productos

```

```

FROM total_vtas_reseller tvr
LEFT JOIN total_items_reseller tir ON tvr.ResellerName = tir.ResellerName"
q10 <- dbGetQuery(con, query10)

```

### 1.5.1 Tabla

```

q10 %>%
  gt() %>%
  tab_header(title = md('**Vendedores proactivos**'),
             subtitle = 'Ventas realizadas vs Total de ítems vendidos' ) %>%
  opt_align_table_header('left')

```

#### Vendedores proactivos

Ventas realizadas vs Total de ítems vendidos

ResellerName	total_ventas	total_productos
A Bike Store	73	121
A Great Bicycle Company	14	21
A Typical Bike Shop	75	137
Acceptable Sales & Service	3	3
Accessories Network	4	5
Acclaimed Bicycle Company	11	16
Ace Bicycle Supply	6	7
Action Bicycle Specialists	179	1090
Active Cycling	2	5
Active Life Toys	173	468
Active Systems	6	20
Active Transport Inc.	71	118
Activity Center	73	167
Advanced Bike Components	394	1695
Aerobic Exercise Company	10	21
Affordable Sports Equipment	269	685
All Cycle Shop	28	93
All Seasons Sports Supply	12	14
Alpine Ski House	14	27
Alternative Vehicles	11	18
Amalgamated Parts Shop	156	862
Another Bicycle Company	176	601
Area Bike Accessories	273	942
Area Sheet Metal Supply	7	15

Associated Bikes	16	29
Atypical Bike Company	2	2
Authentic Sales and Service	13	40
Authorized Bike Sales and Rental	82	234
Basic Bike Company	27	45
Basic Sports Equipment	64	215
Beneficial Exercises and Activities	5	5
Best Cycle Store	177	1052
Best o' Bikes	34	100
Better Bike Shop	359	1207
Bicycle Accessories and Kits	11	14
Bicycle Exporters	38	62
Bicycle Lines Distributors	250	693
Bicycle Merchandise Warehouse	219	1056
Bicycle Outfitters	116	302
Bicycle Warehouse Inc.	39	123
Big Cycle Mall	11	18
Big-Time Bike Store	75	134
Bike Boutique	179	477
Bike Dealers Association	432	1951
Bike Experts	177	667
Bike Goods	54	83
Bike Part Wholesalers	171	498
Bike Products and Accessories	22	42
Bike Rims Company	80	203
Bike World	93	365
Bikes and Motorbikes	251	1578
Bikes for Kids and Adults	44	115
Bikes for Two	27	59
Black Bicycle Company	2	2
Blue Bicycle Company	5	8
Blue-Ribbon Bike Company	115	222
Bold Bike Accessories	75	172
Brakes and Gears	298	1558
Brightwork Company	114	388
Budget Bike Company	3	3
Budget Toy Store	131	378
Bulk Discount Store	331	1126
Camping and Sports Store	122	533
Capable Sales and Service	37	118
Capital Riding Supplies	10	19
Cash & Carry Bikes	5	10
Casual Bicycle Store	263	1104

Catalog Store	255	681
Center Cycle Shop	2	2
Central Bicycle Specialists	4	4
Central Discount Store	95	246
Certified Bicycle Supply	99	265
Certified Sports Supply	7	12
Chain and Chain Tool Distributions	1	1
Channel Outlet	20	68
Chic Department Stores	260	702
City Manufacturing	10	14
Citywide Service and Repair	356	1605
Clamps & Brackets Co.	29	88
Classic Cycle Store	92	249
Client Discount Store	47	95
Closeout Boutique	375	1776
Closest Bicycle Store	117	328
Coalition Bike Company	54	117
Coho Sports	14	21
Commendable Bikes	13	17
Commerce Bicycle Specialists	314	1079
Commercial Sporting Goods	187	1322
Community Department Stores	78	304
Commuter Bicycle Store	20	51
Consolidated Messenger	139	492
Consolidated Sales	125	441
Convenient Bike Shop	31	80
Convenient Sales and Service	129	273
Corner Bicycle Supply	429	1708
Countryside Company	14	20
Courteous Bicycle Specialists	7	7
Cross-Country Riding Supplies	25	46
Curbside Universe	24	38
Custom Accessories Company	250	897
Cycle Clearance	11	21
Cycle Merchants	17	20
Cycle Parts and Accessories	141	391
Cycles and Scooters	13	30
Cycles Sales and Repair	46	134
Cycles Wholesaler & Mfg.	104	231
Cycling Goods	97	222
Daring Rides	59	102
Demand Distributors	11	18
Designated Distributors	103	371

Discount Bicycle Specialists	1	1
Discount Tours	67	200
Distance Bikes	7	8
Distant Inn	96	359
Distinctive Cycles Sales & Service	9	12
Distinctive Store	24	51
District Mall	69	123
Downhill Bicycle Specialists	166	676
Downtown Hotel	54	194
Eastside Cycle Shop	5	5
Eastside Department Store	401	2554
Eastside Parts Shop	4	5
Eastside Sporting Goods	194	772
Eastward Bike Accessories	7	7
eCommerce Bikes	263	942
Economy Bikes Company	5	6
Economy Center	3	3
Educational Services	167	513
Efficient Cycling	14	23
Eighth Bike Store	102	188
Eighty Toy Stores	29	80
Elemental Sporting Goods	75	214
Eleventh Bike Store	1	2
Elite Bikes	189	716
Endurance Bikes	5	7
Engineered Bike Systems	30	46
Enterprise Center	16	31
Essential Bike Works	2	11
Every Bike Shop	184	399
Excellent Bikes	155	846
Excellent Riding Supplies	366	1322
Exceptional Cycle Services	41	137
Exchange Parts Inc.	116	205
Exclusive Bicycle Mart	7	9
Executive Discount Store	3	6
Executive Gift Store	118	332
Exemplary Cycles	31	36
Exercise Center	6	14
Exhibition Showroom	228	1005
Exhilarating Cycles	373	1627
Exotic Bikes	62	128
Expert Sports Store	6	11
Express Bike Services	39	140



Extended Bike Sales	78	263
Extended Tours	9	13
Extraordinary Bike Works	279	1115
Extras Sporting Goods	1	1
Extreme Riding Supplies	80	258
Extreme Toy Store	23	53
Fabrikam Inc., East	88	216
Fabrikam Inc., West	283	978
Fad Outlet	22	42
Family Cycle Store	181	574
Family Entertainment Center	7	8
Family's Favorite Bike Shop	17	25
Famous Bike Sales and Service	65	142
Famous Bike Shop	61	194
Farthermost Bike Shop	422	1488
Farthest Bike Store	145	794
Fashionable Bikes and Accessories	258	840
Fashionable Department Stores	401	1648
Fast Bike Works	45	106
Fast Services	12	19
Fasteners & Bolts Outlet	147	434
Favorite Toy Distributor	112	478
Field Trip Inc	31	72
Field Trip Store	357	1946
Fifth Bike Store	22	32
Finer Cycle Shop	85	309
Finer Mart	12	14
Finer Parts Shop	131	342
Finer Riding Supplies	250	673
Finer Sporting Goods	60	147
Finish and Sealant Products	12	29
Finished Parts Shop	39	86
First Bike Store	312	1155
First Center	4	5
First Cycle Store	115	266
First Department Stores	59	142
First Supplies	38	73
First-Rate Outlet	10	12
Fitness Bike Accessories	9	10
Fitness Cycling	5	7
Fitness Department Stores	3	3
Fitness Discount Store	26	73
Fitness Hotel	20	27

Fitness Sport Boutique	131	646
Fitness Supplies	164	470
Fitness Toy Store	336	1344
Fitness Toys	8	9
Fleet Bikes	6	7
Fourth Bike Store	172	490
Friendly Bike Shop	323	1602
Friendly Neighborhood Bikes	15	40
Front Runner Bikes	170	850
Front Sporting Goods	181	692
Frugal Bike Shop	193	588
Full Sports Supply	41	136
Full-Service Bike Store	26	50
Fun Times Club	218	475
Fun Toys and Bikes	101	185
Functional Store South	224	1055
Future Bikes	12	20
Futuristic Bikes	20	41
Futuristic Sport Distributors	317	1545
Games and Sport Supply Company	9	20
Gasless Cycle Shop	130	308
Gears and Parts Company	92	238
Gear-Shift Bikes Limited	1	1
General Associates	106	181
General Bike Corporation	128	340
General Cycle Storehouse	134	503
General Department Stores	53	111
General Industries	54	229
General Riding Supplies	2	2
General Supplies	334	1012
Genial Bike Associates	250	680
Genuine Bike Shop	59	149
Getaway Inn	289	1208
Gift and Toy Store	107	282
Global Bike Retailers	196	1052
Global Plaza	36	173
Global Sports Outlet	8	9
Glossy Bikes	204	736
Go-cart and Bike Specialists	146	623
Golf and Cycle Store	207	884
Good Bicycle Store	2	2
Good Bike Shop	320	787
Good Toys	8	10

Grand Bicycle Stores	11	20
Grand Discount Store	310	1234
Grand Industries	77	239
Grand Sport Boutique	86	323
Grease and Oil Products Company	102	268
Great Bicycle Supply	38	188
Great Bikes	290	1382
Greater Bike Store	72	214
Grown-up Bike Store	30	56
Guaranteed Sales and Service	91	377
Handy Bike Services	10	16
Hardware Components	85	431
Health Spa, Limited	352	1408
Helmets and Cycles	113	198
Helpful Sales and Repair Service	146	431
Highway Bike Shop	111	293
Historic Bicycle Sales	17	33
Hobby Store	13	29
Home Town Bike Store	7	8
Hometown Riding Supplies	1	2
Honest Repair Service	79	234
Ideal Components	3	7
Immediate Repair Shop	198	641
Immense Manufacturing Company	71	226
Impervious Paint Company	17	41
Imported and Domestic Cycles	1	1
Incomparable Bicycle Store	21	29
Industrial Supplies	79	228
Inexpensive Parts Shop	36	126
Initial Bike Company	264	918
Instant Cycle Store	18	25
Instruments and Parts Company	125	363
Journey Sporting Goods	52	154
Jumbo Bikes	2	2
Juvenile Sports Equipment	168	566
Kickstand Sellers	6	13
Kickstands and Accessories Company	107	192
Kids and Adults Cycle Shop	3	5
Large Bike Shop	2	2
Larger Cycle Shop	482	2076
Largest Bike Store	8	10
Latest Accessories Sales	13	24
Latest Sports Equipment	332	1578

Leading Bike Distributors	37	108
Leading Sales & Repair	103	366
Lease-a-Bike Shop	280	701
Leather and Vinyl Manufacturing	74	173
Leather Seat Factory	241	1192
Leisure Activities	23	50
Leisure Clearing House	13	22
Liquidation Sales	79	184
List Price Catalog Company	68	250
Little Bicycle Supply Shop	6	13
Local Hardware Factory	32	105
Local Sales and Rental	12	19
Locks Company	44	77
Lots of Bikes Storehouse	6	6
Low Price Cycles	14	38
Lubricant and Grease Suppliers	83	309
Lustrous Paints and Components	1	2
Machines & Cycles Store	55	100
Mail Market	6	9
Mail-Order Outlet	286	990
Maintenance and Repair for Bicycles	12	18
Major Amusement Company	70	219
Major Bicycle Store	1	1
Major Cycling	14	18
Major Sport Suppliers	5	5
Major Sporting Goods	2	2
Manufacturers Inc	73	202
Many Bikes Store	301	1119
Mechanical Products Ltd.	104	273
Mechanical Sports Center	50	178
Mercantile Outlet	105	293
Metal Clearing House	99	169
Metal Processing Company	142	363
Metro Bike Mart	144	377
Metro Bike Works	9	17
Metro Cycle Shop	151	402
Metro Manufacturing	82	295
Metro Metals Co.	120	465
Metro Sports Equipment	117	315
Metropolitan Bicycle Supply	303	1351
Metropolitan Equipment	405	2129
Metropolitan Manufacturing	68	208
Metropolitan Sales and Rental	10	10

Metropolitan Sports Supply	85	299
Mobile Outlet	1	1
Moderately-Priced Bikes Store	68	145
Modern Bike Store	85	143
Modular Cycle Systems	235	980
More Bikes!	6	9
Mountain Bike Center	255	862
Mountain Bike Store	102	184
Mountain Emporium	1	5
Mountain Toy Store	13	13
National Manufacturing	110	251
Nationwide Supply	196	975
Nearby Bike Mall	31	49
Nearby Cycle Shop	198	617
Nearby Sporting Goods	5	10
Nearest Bike Store	6	7
Neighborhood Bicycle Storehouse	7	11
Neighborhood Store	152	623
New and Used Bicycles	304	685
New Bikes Company	6	6
Next Door Cycles	134	391
Next-Door Bike Store	128	448
Nice Bikes	15	26
Noiseless Gear Company	210	609
Nonskid Tire Company	26	44
Non-Slip Pedal Company	79	131
North Bike Company	56	195
Novelty Bikes	24	49
Number 1 Supply	219	623
Number One Bike Co.	55	107
Odometers and Accessories Company	154	900
Official Parts Shop	87	339
Off-Price Bike Center	4	4
Oils and Fluids Warehouse	46	156
One Bike Company	47	183
One-Piece Handle Bars	1	1
Online Bike Catalog	7	12
Online Bike Sellers	5	15
Online Bike Warehouse	2	2
Only Bikes and Accessories	15	24
Operational Manufacturing	3	5
Optimal Bikes	14	23
Orange Bicycle Company	56	231

Original Bicycle Supply Company	387	1236
Our Sporting Goods Store	19	26
Outdoor Aerobic Systems Company	3	3
Outdoor Equipment Store	332	1688
Outdoor Sporting Goods	13	32
Outdoor Sports Supply	54	171
Outstanding Cycles	165	880
Paint Supply	376	1203
Painters Bicycle Specialists	150	494
Paints and Solvents Company	55	156
Parcel Express Delivery Service	1	1
Parts Shop	1	1
Pedal Systems Company	4	5
Pedaling Components	37	105
Pedals Warehouse	8	14
Perfect Toys	123	578
Permanent Finish Products	391	1782
Petroleum Products Distributors	168	910
Plastic Parts Company	8	11
Plastic Products Manufacturers	35	61
Popular Bike Lines	156	459
Practical Bike Supply Company	8	11
Preferred Bikes	328	1203
Pretty Bikes and Toys	91	228
Price-Cutter Discount Bikes	83	195
Primary Bike Distributors	170	547
Primary Cycle Shop	14	21
Principal Bike Company	64	127
Producer Goods Clearinghouse	26	38
Professional Containers and Packaging Co.	34	94
Professional Cycle Store	191	623
Professional Cyclists	18	32
Professional Sales and Service	162	499
Professional Sporting Goods	6	9
Progressive Sports	70	198
Prosperous Tours	369	1666
Purchase Mart	21	35
Qualified Sales and Repair Services	115	366
Quality Bike Sales	5	7
Quantity Discounts	229	539
Quick Delivery Service	15	23
Quick Parts and Service	98	180
Quitting Business Distributors	40	56

Racing Association	5	9
Racing Bike Outlet	15	22
Racing Partners	26	56
Racing Sales and Service	188	707
Racing Supply Distributors	50	73
Racing Tours	42	147
Racing Toys	61	106
Racks and Security Systems	6	9
Rally Day Mall	358	1588
Rally Master Company Inc	110	507
Rambling Tours	2	4
Rampart Amusement Company	9	12
Rapid Bikes	446	1843
Raw Materials Inc	64	153
Real Sporting Goods	418	1887
Reasonable Bicycle Sales	329	1386
Recommended Bicycles	2	2
Recreation Supplies	1	2
Recreation Systems	16	25
Recreation Toy Store	30	53
Red Bicycle Company	220	709
Regional Cycle Shop	3	4
Regional Manufacturing	2	4
Registered Cycle Store	440	2313
Reliable Brake Systems	44	103
Reliable Retail Center	15	21
Remarkable Bike Store	83	311
Remote Bicycle Specialists	62	177
Rental Bikes	33	90
Rental Gallery	36	122
Requisite Part Supply	27	81
Resale Services	374	1337
Responsible Bike Dealers	65	193
Retail Cycle Shop	1	4
Retail Discount Store	1	1
Retail Mall	451	1931
Retail Sales and Service	279	675
Retail Sporting Equipment	91	288
Retail Sporting Goods	1	1
Retail Toy Store	7	10
Retirement Activities Association	4	4
Retread Tire Company	8	13
Retreat Inn	21	45

Rewarding Activities Company	436	1963
Rich Department Store	73	212
Riders Company	378	1058
Riding Associates	18	49
Riding Cycles	184	1078
Riding Excursions	1	1
Riverside Company	34	137
Road Way Sales and Rental	2	2
Roadway Bicycle Supply	145	766
Roadway Bike Emporium	71	231
Road-Way Mart	1	2
Roadway Supplies	2	3
Rodeway Bike Store	165	592
Roving Sports	23	64
Rugged Bikes	84	269
Running and Cycling Gear	139	381
Rural Cycle Emporium	267	1189
Rural Department Store	24	32
Rural Mountain Bike Mart	52	207
Rural Sales and Service	7	10
Rustic Bike Store	9	9
Safe Cycles Shop	375	1606
Safe Toys	38	95
Sales and Supply Company	304	1784
Sample Bike Store	58	105
Satin Finish Company	263	691
Scooters and Bikes Store	106	266
Scratch-Resistant Finishes Company	36	63
Seaside Bike Works	17	29
Seats and Saddles Company	1	1
Second Bike Shop	3	3
Security Racks and Locks Wholesalers	12	14
Selected Distributors	22	39
Self-Contained Cycle Parts Company	9	9
Sellers of Cycles	26	63
Sensational Discount Store	1	1
Sensible Sports	21	28
Separate Parts Corporation	268	642
Serious Cycles	67	195
Seventh Bike Store	380	1073
Sharp Bikes	19	34
Sheet Metal Manufacturing	371	1471
Shipping Specialists	2	5



Showcase for Cycles	2	2
Simple Bike Parts	13	15
Sixth Bike Store	38	86
Sleek Bikes	84	255
Small Bike Accessories Shop	83	228
Small Bike Shop	249	750
Small Cycle Store	121	274
Social Activities Club	14	20
Solid Bike Parts	114	243
Some Discount Store	31	76
South Bike Company	65	162
Spa and Exercise Outfitters	264	1124
Spare Parts Co.	297	1042
Sparkling Paint and Finishes	34	86
Specialty Sports Store	15	31
Spoke Manufacturers	5	5
Sports Commodities	22	33
Sports Merchandise	72	209
Sports Products Store	76	164
Sports Sales and Rental	44	107
Sports Store	9	14
Standard Bikes	60	199
Stationary Bikes and Stands	75	174
Steel Inc.	233	1292
Stock Parts and Supplies	89	258
Sturdy Toys	193	732
Stylish Department Stores	14	30
Suburban Cycle Shop	24	69
Successful Sales Company	95	246
Summer Sports Place	4	5
Sundry Sporting Goods	317	771
Sunny Place Bikes	106	338
Super Sports Store	53	90
Superb Sales and Repair	89	160
Superior Hardware Distributors	8	10
Superlative Bikes	39	75
Sure & Reliable Sporting Goods	228	593
Swift Cycles	170	348
Synthetic Materials Manufacturing	5	7
Systematic Sales	23	45
Tachometers and Accessories	39	84
Tandem Bicycle Store	30	54
Tandem Sales and Service	30	54

Technical Parts Manufacturing	119	335
Tenth Bike Store	282	928
The Accessories Store	8	9
The Bicycle Accessories Company	34	145
The Bike Mechanics	45	96
The Bike Outlet	100	176
The Bike Shop	14	22
The Commissary	2	3
The Cycle Store	1	1
The Gear Store	393	1579
The New Bike Store	7	10
The Showroom	5	7
Third Bike Store	42	78
This Area Sporting Goods	45	177
Thorough Parts and Repair Services	358	1344
Thrifty Parts and Sales	8	13
Thrilling Bike Tours	53	90
Tiny Bike Boutique	132	311
Tire Company	17	26
Tire Exchange	68	224
Top Bike Market	11	18
Top of the Line Bikes	5	6
Top Sports Supply	441	2350
Totes & Baskets Company	436	1736
Tough and Reliable Parts	13	23
Touring Services	19	27
Town Industries	5	12
Traditional Department Stores	120	465
Trailblazing Sports	279	795
Transport Bikes	11	17
Transportation Options	7	8
Travel Sports	165	584
Travel Systems	35	67
Tread Industries	81	356
Trendy Department Stores	7	8
Trusted Catalog Store	104	325
Tubeless Tire Company	1	1
Twelfth Bike Store	264	981
Twin Cycles	13	13
Two Bike Shops	12	15
Two Wheels Cycle Store	24	52
Two-Seater Bikes	4	5
Two-Wheeled Transit Company	53	114

Ultimate Bicycle Company	143	372
Ultimate Bike Shop	44	108
Uncompromising Quality Co	11	14
Underglaze and Finish Company	157	526
Unified Sports Company	57	123
Unique Bikes	31	73
Unsurpassed Bikes	21	40
Unusual Bicycle Company	10	14
Up-To-Date Sports	115	296
Urban Sports Emporium	103	257
Utilitarian Sporting Goods	101	291
Uttermost Bike Shop	283	879
Vale Riding Supplies	13	20
Valley Bicycle Distributors	43	68
Valley Bicycle Specialists	150	382
Valley Toy Store	235	732
Valuable Bike Parts Company	315	1101
Variety Cycling	57	137
Vast Bike Sales and Rental	65	161
Vehicle Shop	29	82
Versatile Sporting Goods Company	9	16
Very Best Sports Supply	30	44
Vigorous Exercise Company	530	2737
Vigorous Sports Store	12	16
Village Tours	36	97
Vintage Sport Boutique	146	434
Vinyl and Plastic Goods Corporation	10	15
Weekend Bike Tours	1	1
Weekend Tours	72	123
West Side Mart	3	4
West Wind Distributors	22	35
Western Bike Supplies	21	47
Westside Cycle Store	10	25
Westside Plaza	203	1363
Wheel Gallery	22	28
Wheels Inc.	3	3
Wheelsets Storehouse	254	1410
Wholesale Bikes	61	128
Wholesale Parts	59	124
Widget Bicycle Specialists	1	1
Wingtip Toys	3	8
Wire Baskets and Parts	90	174
Wonderful Bikes Inc.	54	203

Work and Play Association	102	236
Workout Emporium	10	15
World Bike Discount Store	10	14
World of Bikes	289	1054
Worthwhile Activity Store	112	304
Year-Round Sports	43	101
Yellow Bicycle Company	28	57

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### 1.5.2 Scatterplot